

## CLAIMS

We claim:

1. A recombinant genetic construct encoding a dengue viral genome comprising a full-length genome of a dengue virus wherein the construct is modified at a 13-amino acid encoding region just proximal to the pr-M cleavage site which is devoid of negatively-charged amino acids and contains additional positively-charged amino acids relative to a wild-type dengue virus.
2. The genetic construct of claim 1 wherein said genetic construct comprises DNA.
3. The genetic construct of claim 1 wherein said genetic construct encodes a mutant prM protein which substantially identical to the sequence depicted in SEQ ID NO: 1.
4. A mutant dengue virus comprising a full-length genome of a dengue virus wherein the virus comprises a 13-amino acid-encoding region just proximal to the pr-M cleavage site which is devoid of negatively-charged amino acids and contains additional positively-charged amino acids relative to a wild type dengue virus.
5. A mutant dengue virus of claim 4 which contains less prM protein on viral envelope than the prototype dengue virus due to an enhanced internal cleavage of the prM protein.
6. A mutant dengue virus of claim 4 wherein the virus induces infected C6/36 mosquito cell line to fuse at the neutral pH to a greater extent than a wild type dengue virus.
7. A mutant dengue virus of claim 4 wherein the cell fusion by the mutant dengue virus is best at 29°C.
8. A mutant dengue virus of claim 4 wherein the cell fusion by the mutant dengue virus is less efficient at 40°C.
9. A mutant dengue virus of claim 4 wherein the virus is exported out of the infected cells to a lesser extent than a wild type dengue virus, result in a lower virus titer in the culture medium.